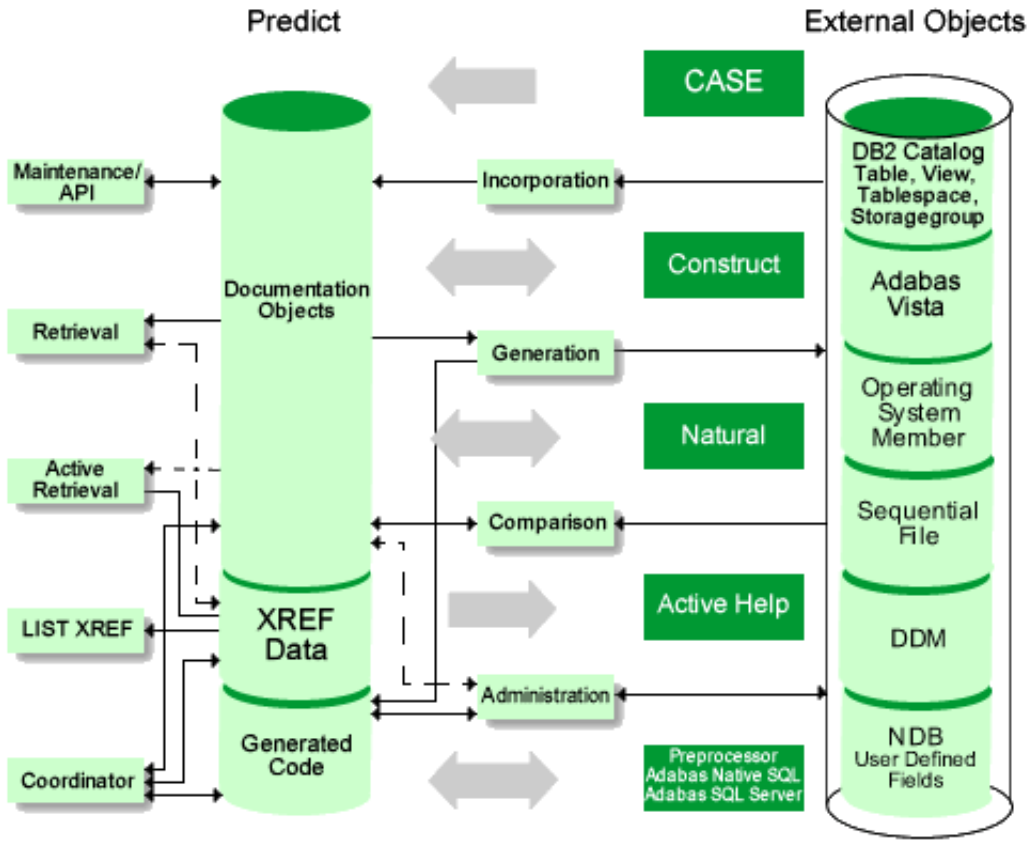
General Information on Predict Functions



This diagram provides an overview of the functions available in Predict.

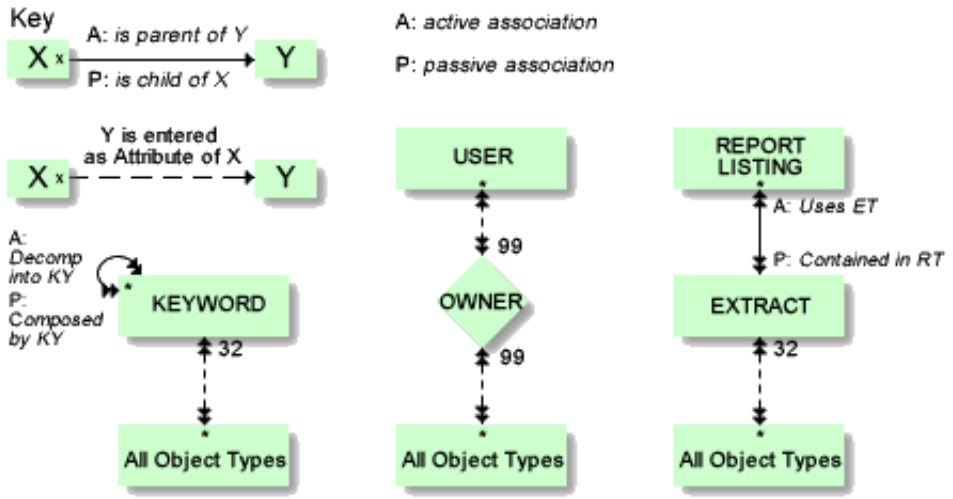
Some functions, for example Retrieval, only process dictionary data. Other functions, for example Administration, process dictionary data and objects in an external environment.

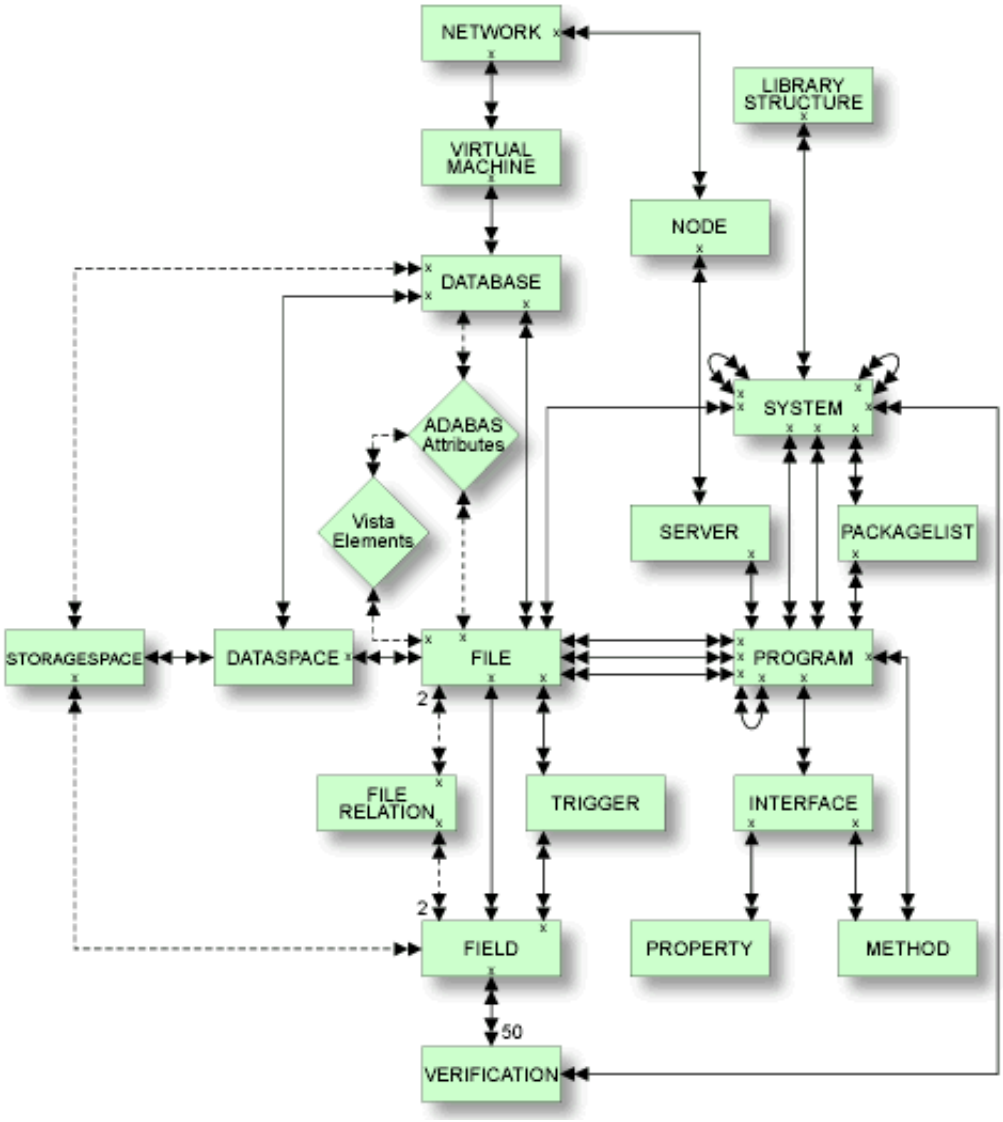
This section covers the following topics:

- Metastructure of Predict
- Object Types
- Subtypes of Predict Object Types
- Associations - Documenting the Structure of a System

Metastructure of Predict

The following diagrams show the predefined metastructure of the Predict documentation data.





Object Types

Predict object types can be grouped as follows:

- Objects documenting data structures
- Objects documenting data processing objects
- Users
- Keywords
- Extracts
- Report Listings
- User-defined object types

Subtypes of Predict Object Types

Predict objects can have subtypes. For example: the Predict object type System has the subtypes Application, Conceptual, 3GL application and DB2 plan. These subtypes of system objects are referred to as system types.

The different types of objects and their subtypes are described in detail in the documentation Predefined Object Types in Predict.

Associations - Documenting the Structure of a System

Objects of an information processing system are organized in parent-child associations.

Associations of objects can be established

- by entering one object in the child list of another object or
- by entering the parent of an object in the parameter in parent of the child object (where in parent is to be substituted by the respective association, for example contained in DA). In this case, an entry in the child list of the parent object is created automatically.

For example:

The file object DEF_1 can be linked as child to Database ABC_1 by adding DEF_1 to the contains FI list of ABC_1.

Alternatively, ABC_1 can be specified as parameter contained in DA when adding or maintaining the file DEF_1.

New types of associations can be defined to link object types. See User-Defined Object Types and Association Types.

Relating Objects Logically

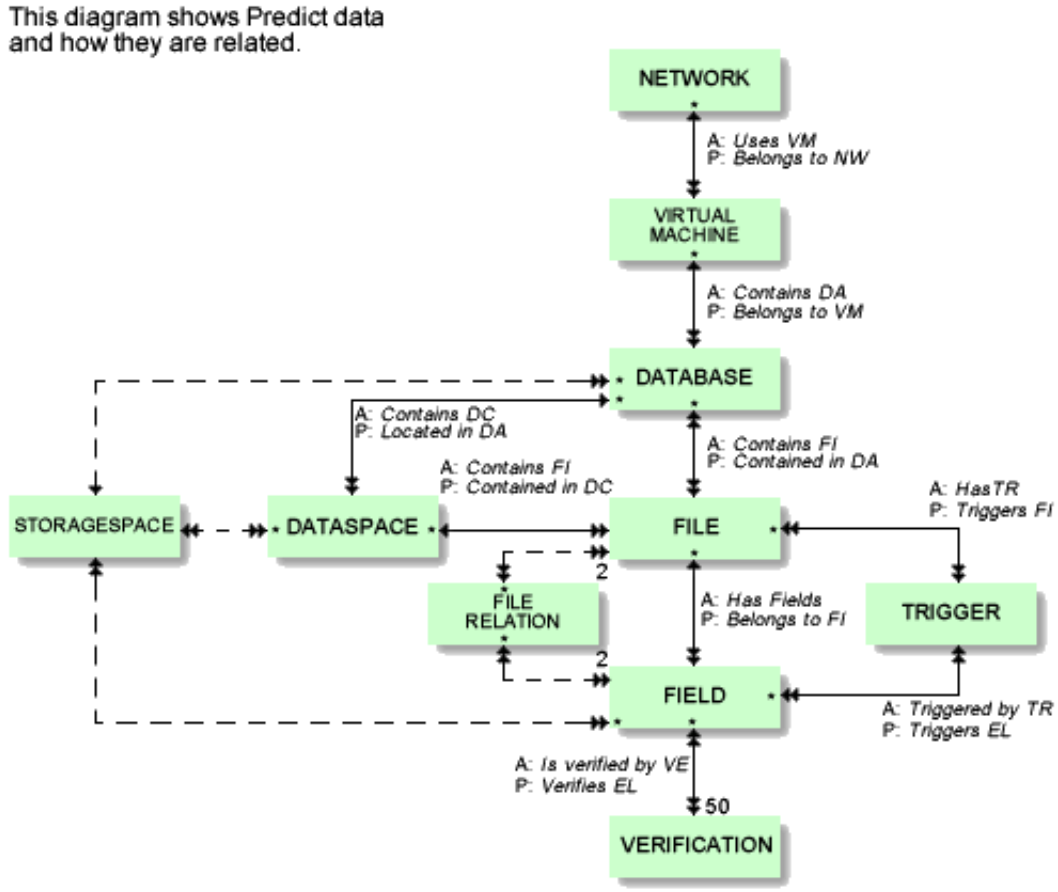
Different objects of an information processing system having the same properties can be related logically in Predict in one of the following ways:

- By assigning the same **owner** to objects,
  for example by assigning the owner Junior to all the performance-critical programs written by Mr. Junior.
  See Users/Owners for more information.
- By assigning the same **keyword** to objects,
  for example by assigning a keyword performance_critical to programs.
  See Keywords.
- By using the same **text string** in the abstracts or descriptions of objects,
  for example by using performance_critical in the abstract of programs or by using this string in the description of programs.

See Restrictions.

- By placing objects in an **extract**.
  An extract can contain an unlimited number of other objects. Full retrieval functionality is available for creating extracts, and existing extracts can be processed with set operations Union, Difference, Intersection.
  See the section Extracts.

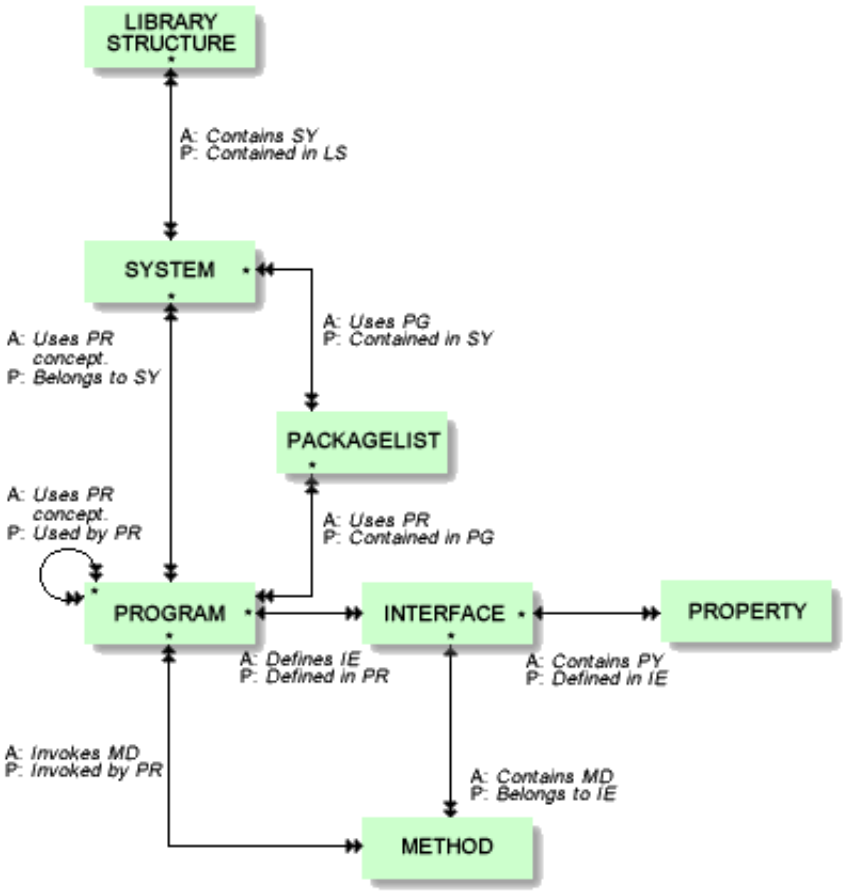
Objects Documenting Data Structures



Object Type	Description
Network	All databases belonging to the same network can be accessed. Virtual machines are linked to networks and databases are linked to virtual machines.
Virtual machine	The Predict object virtual machine identifies the hardware and operating system environment of a database.
Database	Various subtypes are provided to document different database systems. The subtype Conceptual can be used to create preliminary Database objects in the design phase.
File	Over two dozen different file types (including userviews) are provided for documenting different data storage systems and application development environments. Different types of files are distinguished: • Conceptual files • Standard files • Physical files • Userviews
Field	Field objects can contain all the information on attributes and characteristics of fields. If Verifications of type automatic are linked to a field via *is verified by VE*, these are used automatically in Natural maps which use the field. Fields can be redefined, structured in groups, have synonyms etc.
File relation	Coupling of Adabas files and referential integrity of DB2 tables can be documented in Predict with objects of type File relation.
Dataspace	For the documentation of DB2 tablespaces and SQL dbspaces.
Storagespace	For the documentation of DB2 storagegroups.
Verification	Objects of type verification can contain the Natural code for processing rules. Verifications can be of type documented, conceptual, free, automatic, Natural Construct or SQL. Verifications of type automatic are used automatically by any Natural program using the field (to which the Verification is linked via *verifies EL)* in a map .
Trigger	Triggers of several SQL database systems are documented as trigger objects. They can be linked to tables of type DB2, Ingres, Sybase and Informix and to fields of DB2 tables and views.

Objects Documenting Data Processing Objects

Data dictionary objects of the following types are used to describe objects which process data:



Object Type	Description
System	An application can be documented with a Predict object of type system. The subtype Conceptual can be used to outline a preliminary description of an application in the design phase. Libraries of 3GL programs must be specified as systems.
Packagelist	The Predict object type packagelist is used to document DB2 packages.
Program	Predict differentiates between more than a dozen different types of programs, ranging from Parameter data area to Natural Expert Model. About a dozen different languages are predefined and user-specific languages can be defined.
Interface	Used to document the interfaces of a class.
Method	Used to document the methods of an interface.
Property	Used to document the properties of an interface.

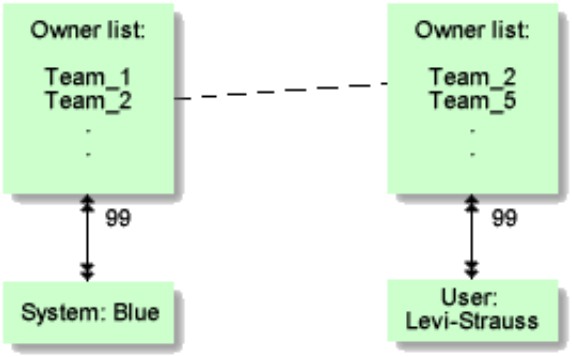
Users/Owners

Information on users and organizational units can be documented using the Predict object type user.

Attributes of the Predict object type user include: ID, name, organizational affiliation, address. One attribute of the Predict object type user is owner. Groups of users that reflect organizational units (for example project teams) can be formed by assigning individual users to an owner. Each user can belong to several owners. Owners can be linked to other types of Predict objects.

Using Owners to Relate Dictionary Objects Logically

It is possible to document who uses an information processing object or is responsible for it by adding an owner to the Owner list of the User and then adding the same owner to the Owner list of the object. This is illustrated in the diagram below. The user Levi-Strauss is related logically to the system Blue, because both the Owner lists of the system object Blue and the User object Levi-Strauss contain the owner Team_2.



Note:
Creation of owner lists can be forced or disallowed for each subtype of object types.

Keywords

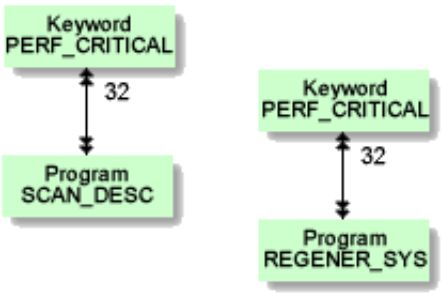
Keywords can be used to relate objects logically (for example all objects used in a particular business context or all objects that share certain properties). Objects of different types can be related using keywords.

Using Keywords To Relate Dictionary Objects Logically

The use of keywords to relate objects is illustrated in the following diagram. The program objects SCAN_DESC and REGENER_SYS both have the keyword PERF_CRITICAL in their keyword list.

Predict functions could then be applied to all objects considered performance-critical by specifying the value PERF_CRITICAL with the selection parameter Restrictions / with keyword.

Up to 32 keywords can be assigned to each data dictionary object.



Note:
A keyword must have been defined as a Predict object before it can be assigned to other objects.

Extracts

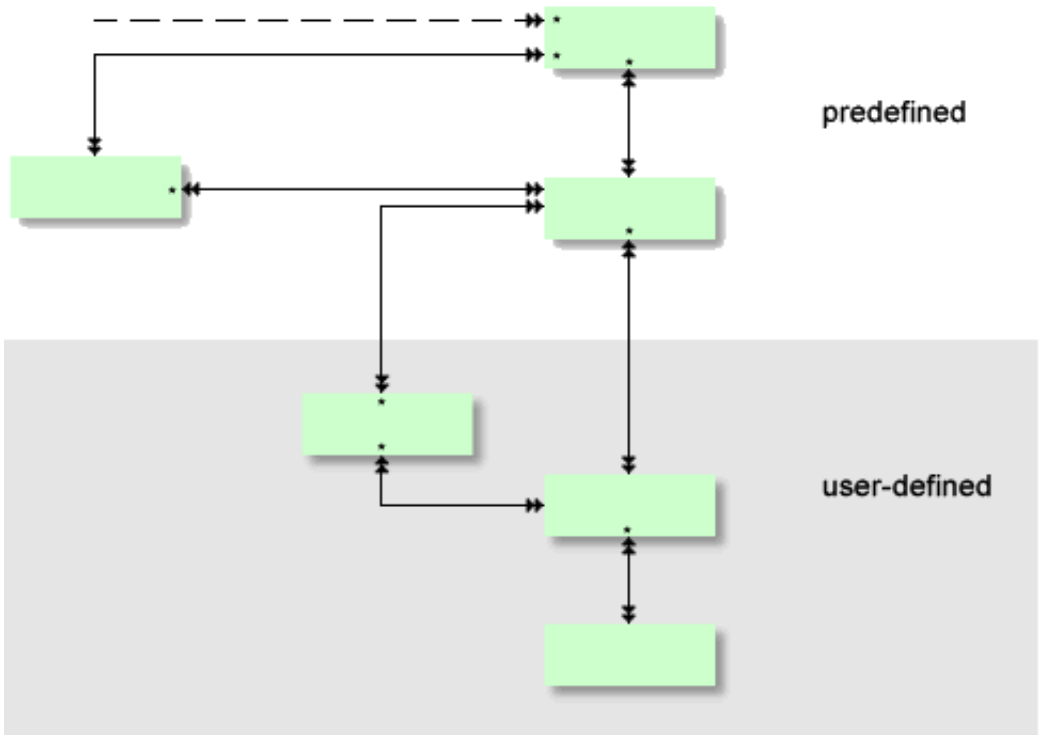
Objects of type extract are used to group objects. This is in particular needed if you want to export objects from Predict using the Predict Coordinator.

Report Listings

Report Listings are log files created automatically during conversion or when a transfer operation of the Predict Coordinator takes place.

User-Defined Object Types and Association Types

In addition to the object and association types delivered with Predict, new object and association types can be defined by data dictionary administrators.



User-defined object types and associations are supported by Predict in the following ways:

- They are administered in a separate library.
- Standard maintenance and retrieval functions can also be applied to objects of user-defined types.
- If the definition of a user-defined object type is changed in the Metadata Administration, all objects are changed accordingly.

See the section Metadata Administration in the **Predict Administration documentation** for a description of how user-defined object types and associations are created.

